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(*Ardea herodias herodias*) and Farallon Cormorants (*Phalacrocorax auritus albociliatus*); the vast ground colonies of American White Pelicans (*Pelecanus erythrorhynchos*); its settlements of California Gulls (*Larus californicus*); and most of all, and long to be remembered, the wild-crying Ospreys in the great forests of virgin timber, and their huge nests in the lofty dead pines.

San Francisco, California, December 15, 1914.

NOTES ON MURRELETS AND PETRELS

By ADRIAAN VAN ROSSEM

WITH ONE PHOTO BY L. HUEY AND TWO PHOTOS BY A. HILLER

THOUGH the primary object of this paper is the discussion of some fall specimens of Murrelets taken between San Diego, California, and Los Coronados Islands, Lower California, I deem it advisable to incorporate

1 2 3 4 5 6 7



Fig. 26. SPECIMENS OF *Brachyramphus hypoleucus* (no. 1) AND *B. craveri* (nos. 2-7), SHOWING COLOR OF WING-LININGS

also some notes on the Black and Socorro Petrels which breed on the Coronados in company with the Xantus Murrelet and have also been more or less closely associated with it in much of the recent literature on the Islands.

When on August 13 of the present year Mr. Laurence Huey and the writer made a flying trip to Los Coronados with a view to collecting a series of young petrels, seven murrelets were taken in the channel about midway between San Diego and the Islands. Of these, one is unmistakably *Brachyramphus hypoleucus*, while the others, after careful attention to the distinguishing characteristics as given by Mr. William Brewster in his "Birds of the Cape Region of Lower California", I have no alternative but to label *Brachyramphus craveri*.

The accompanying illustration (fig. 26) shows very nicely the distinction

between the two species so far as the under wing-coverts are concerned. It is hardly fair, however, to use no. 1 as *typifying hypoleucus*, as it has the darkest wing lining I have ever seen out of a hundred odd birds handled in the flesh. Typical specimens with the wing lining immaculate are, on the Coronados at least, decidedly in the minority, most of the birds having concealed dusky bases to the feathers. In a dried skin this condition is not readily discernible, which may be the cause of the general belief that *hypoleucus* always has immaculate under wing-coverts. The unusual degree of clouding

in the figured specimen is probably by reason of the immaturity of the bird. The coloration of the wing linings of nos. 2-7 inclusive may be briefly described as a mottling of smoky brown, dark ashy and seal brown on a grayish white ground, except for the irregular spot near the base of the wing which is pure white.

Of the specimens shown, nos. 2, 3, 6 and 7 are adults, and nos. 1, 4 and 5, birds of the year. However, as all have completed the fall moult (except for a few old summer feathers as noted farther on) it seems permissible to use adults and young alike for purposes of comparison. Using, then, no. 1 as representing *B. hypoleucus* and nos. 2-7 inclusive as examples of *B. craveri*, the following constant dissimilarities (exclusive of the under wing-coverts) will readily be observed. The upper parts of the two species at first glance appear identical in shade and luster. Closer examination, however, shows *craveri* to be slightly but noticeably duller and browner on the sides of the face, neck

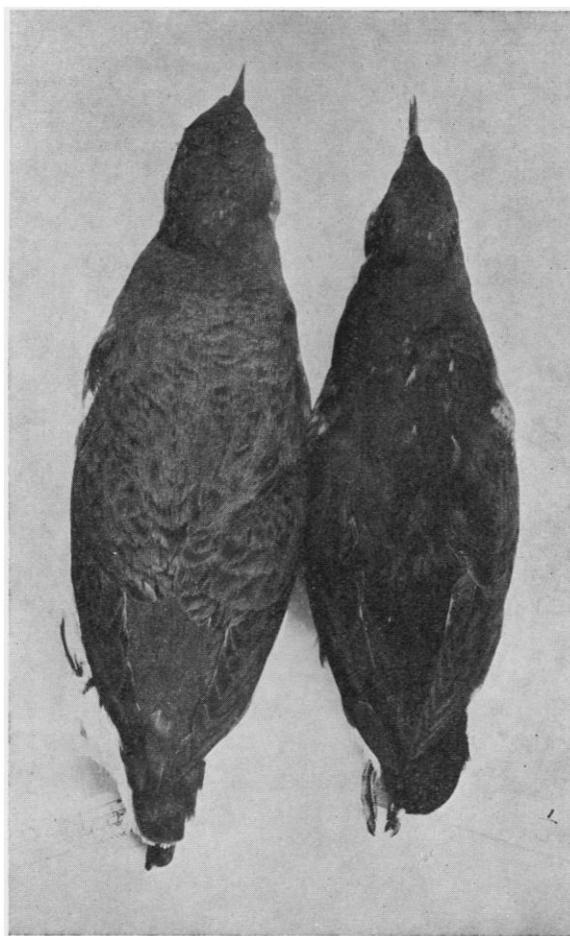


Fig. 27. SPRING (LEFT) AND FALL (RIGHT) SPECIMENS
OF *Brachyramphus hypoleucus*

and body; moreover the dorsal plumage on being disarranged shows a decided brownish tendency, though this is obscured by the lighter tipping which is the same clear slate as in *hypoleucus*. The latter exhibits leanings in the same direction but in a much less degree, the brownish tinge being almost unnoticeable. A few old feathers still remaining unshed along the edge of the wing and on the shoulders of the adults would indicate beyond a doubt that the summer

plumage of these specimens was very different from that of *B. hypoleucus*, these feathers being of a shade about intermediate between hair brown and seal brown. In this regard it may be appropriate to mention that I have never seen any breeding specimens of *hypoleucus* that are *clear* slaty. A slight brownish cast is apparently always present, most decided on the wing quills and tips of the scapulars though the whole dorsal plumage is slightly suffused particularly in the more worn specimens. In the case of nos. 2-7 the unicolored feathers on the sides of the body and flanks greatly outnumber the variegated ones, while with *hypoleucus* the exact opposite is the case. The general effect is much the same, in other words in both species the parts mentioned have a mottled appearance, but from a different cause. An individual feather in the case of *craveri* is, when followed up, usually found to be either dusky or white, and the mottling results from the intermingling of these feathers, but in *hypoleucus* the same effect is obtained (generally speaking) by reason of the individual plume being bicolored.

Aside from the smaller feet and bills no differences are discernible between the two birds of the year and the four adults (of *B. craveri*) except a more blackish cast to the dorsal plumage apparently by reason of the tipping being of a slightly darker shade. Figure 27 will give a good idea of the difference in shade between the breeding and fall plumage of Xantus Murrelet.

To sum up the situation, nos. 2-7 may be referred to *B. craveri* for the following reasons:

B. hypoleucus

- Wing lining immaculate or nearly so.
- Concealed portions of dorsal plumage with faint brownish cast.
- Side of head, neck and body blackish slate.
- Unicolored feathers on sides of body in minority.
- Worn summer feathers light slaty with faint brownish suffusion.

B. craveri

- Wing lining heavily clouded and mottled.
- Concealed portions of dorsal plumage with strong brownish cast.
- Sides of head, neck and body brownish slate.
- Unicolored feathers on sides of body in majority.
- Worn summer feathers about intermediate between hair brown and seal brown.

The petrel colony on Los Coronados is, I am happy to state, apparently gaining in numbers each year. Messrs. Grinnell and Daggett on their visit to the Islands, August 6 and 7, 1902 (Auk, XX, 1903, pp. 27-37) make no estimate of the numbers of either Socorro (*Oceanodroma socorroensis*) or Black (*Oceanodroma Melania*) petrels breeding there at that time, but state that twenty-four adults of the former and four of the latter species together with many young and eggs were taken in an afternoon's hard work. From what I have seen there the present season, it would now be rather a simple matter for two persons to obtain upwards of fifty adult Socorro Petrels in the same length of time on the same date. This refers to the main colony; but small branch colonies have sprung up wherever sufficient soil is available to burrow in. In many instances this year no burrow at all was dug, the birds simply worming their way under the dense bushes to lay their eggs.

Another matter of surprise to me is the fact that Messrs. Grinnell and Daggett found *socorroensis* breeding on North Island, a condition which is certainly non-existent at the present time, though *Melania* nests there in considerable numbers. Possibly the hordes of Cassin Auklets (*Ptychoramphus aleuticus*) which infest the island in the breeding season, as well as a mouse (*Peromyscus* sp.) which also abounds there, have at last driven *socorroensis* to take refuge on the smaller Middle Island, which place now seems to be their sole

breeding ground on the islands. Just why the Socorro Petrel should be forced out by the above mentioned vermin (*if such be the case*), while the Black Petrel persists in abundance, is a question which for the present must remain unanswered.

Black Petrels nest on all of the group with the exception of South Island and in aggregate numbers probably exceed the Socorros, though their habit of nesting in isolated pairs or at best small scattered colonies renders them much more difficult to obtain. Another factor which adds to the difficulty of collecting them is that very frequently the nesting site is under some great boulder or in a narrow, inaccessible crevice in a rock wall. I am morally certain that, on these islands at least, although the Black Petrels occasionally do use burrows, these are not excavated by the birds themselves, but are merely abandoned ones of Socorro Petrel or Cassin Auklet. The normal site is a nat-

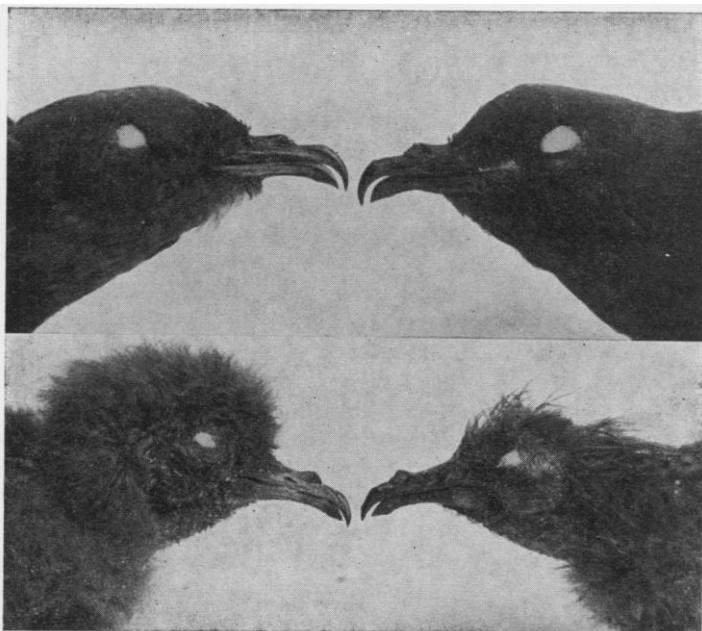


Fig. 28. ADULT AND YOUNG PETRELS: *Oceanodroma socorroensis* AT LEFT; *O. melania* AT RIGHT. THE LARGER SIZE OF THE BILL OF THE LATTER IS EVIDENT, EVEN IN THE YOUNG

ural one, such as a cranny in a rocky wall, beneath misplaced slabs of rock, in dark caves, or even under heavy bushes, sharing this last situation with *socorroensis*, birds of each species sometimes being found within a few inches of each other.

The young of these two petrels are very similar in appearance. When first hatched the bills, tarsi and feet are a dirty pinkish, gradually darkening as the birds grow older till by the time they are the age of those figured (about two weeks) the parts mentioned are the solid, shiny black of the adults. Even in newly hatched chicks the difference in bills is plainly visible (see fig. 28), and no difficulty should be experienced in distinguishing the young even in the field should a young Black Petrel be taken from a Socorro burrow. The natal down is at first a light smoky gray, changing as the bird develops to

dark, almost blackish, smoky gray, possibly from continued contact with the dark peaty soil, though I am inclined to believe the change a natural one. In *melandia* this down is a shade lighter than in *socorroensis*, which strikes one as rather peculiar considering that in later life *melandia* is the darker of the two.

As for the great variation in the amount of white (or total absence of it) to be found on the rump of *socorroensis*, I prefer to leave that point to others infinitely more competent to discuss it than I am. However, it may be mentioned that earlier in the season (late June, 1913) the majority of birds showed at least a trace of white, while of those taken August 13 of the present year only about one in four showed the above mentioned character.

Pasadena, California, September 10, 1914.

BIRDS OF A BERKELEY HILLSIDE

By AMELIA SANBORN ALLEN

WITH FOURTEEN PHOTOGRAPHS ON SEVEN FIGURES

FOR the past three years I have been living in Strawberry Canyon. Our house is in the middle of a dense grove of young live-oak trees, on the southern wall of the canyon opposite the University dairy, and to the

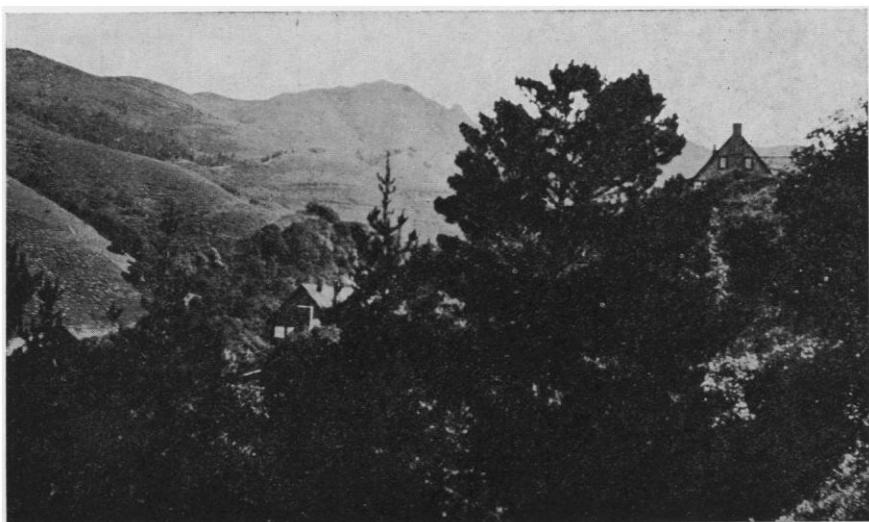


Fig. 29. GENERAL VIEW OF STRAWBERRY CANYON LOOKING EAST, SHOWING THE LOCATION OF THE HOUSE (UPPERMOST) AND ITS SURROUNDINGS

Photo by Amelia S. Allen.

south and west of the swimming pool. The house faces south and up the hill. To the west are three unimproved lots, one of woodland, the others partly open, with several rather large pine trees. To the north and east the oak forest is continuous, interspersed with bay trees; and there is a dense under-growth of hazel, cascara, poison oak, spiraea, wild rose, snow-berry, wild currant, blackberry and bracken, with thimble-berries and wild parsnip filling the cross ravines. On the eastern side, our lot is bounded by the University cam-